

**What is claimed is:**

1. A method of manufacturing an integrated VCSEL and photodetector pair, said method comprising the steps of:
  - 5 forming layers comprising a VCSEL on a semiconductor substrate;
  - forming layers comprising a photodiode on a top-most of the VCSEL layers;
  - etching the photodiode layers within a first area to expose the top-most VCSEL layer but not etching the photodiode layers in a second area;
  - forming an isolation region substantially within the first area to define a current
  - 10 path for the VCSEL and to substantially isolate VCSEL electrically from the photodiode;
  - forming a cathode and anode contact to the VCSEL; and
  - forming a cathode and anode contact to the photodiode.

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